

## TWO NEW BEES FROM COLORADO.

By T. D. A. COCKERELL, Boulder, Colo.

These bees were bred by Mr. Chas. H. Hicks, and are described now in order that he may refer to them in connection with his biological observations.

### *Osmia caulicola* sp. n.

♀. (Type). Length slightly over 6 mm., anterior wing 5 mm.; blue-green, the postscutellum yellowish green. The very broad abdomen steel blue, the margins of the tergites concolorous; antennae black, fourth joint very short; mandibles tridentate, black; clypeus very densely, confluent, punctured, the lower margin gently arched, and covered with pale reddish hairs, but disc of clypeus with thin long black hair, contrasting with the white hair on sides of face; front and occiput with pale hair, but vertex with scanty long dark hair; front densely punctured, with a median shining channel descending from middle ocellus; eyes pure black; mesothorax and scutellum closely punctured but shining, the scutellum with a median smooth line; area of metathorax dull; thorax above with long faintly fulvescent hair, and some black hairs intermixed, but so few that they can only be seen with a microscope; tegulae green in front; wings dusky hyaline, the marginal cell without a dark cloud, but dusky throughout; second cubital cell receiving recurrent nervures about equally far from base and apex; legs black, not at all metallic, the last tarsal joint rufous; hair on inner side of tarsi pale reddish; abdomen rough but somewhat shining, without evident bands; in lateral view some light hair can be seen on margins of tergites; ventral scopa black.

♂. Head, thorax and abdomen yellowish green, hair of head and thorax above distinctly fulvescent, with no admixture of black on head or thorax; flagellum long and slender, not moniliform, obscurely brownish beneath; hair of face pale fulvescent; hind tibiae slightly greenish; tarsi ordinary, the last joint red; hind basitarsi not dentate; abdomen with no ventral tubercle; sixth tergite with a small but distinct notch; seventh strongly bidentate.

Gregory Canyon, Boulder, Colorado, both sexes bred by Mr. Chas. Hicks, who will publish an account of his observations. The female runs nearest to *O. melanstricha* Lovell & Ckll., but is much smaller, and easily distinguished by the smooth channel down the

middle of the front. The male runs close to *O. pulsatillae* Ckll., but lacks the black hairs of that species.

***Alcidamea mucronata* n. sp.**

Male. Length about 8 mm. (abdomen curved downward at end), anterior wing nearly 6 mm.; black, including mandibles, antennae (flagellum very obscurely brownish beneath), tegulae and legs; dense hair of face and front, and long hair of vertex and thorax above, clear fulvous; hair dull white on under side of head and thorax; mouth parts very long, extending more than 4 mm. beyond head; scape greatly swollen; flagellum thick, crenulate below, with the spine-like apex produced and curved; vertex shining on each side of ocelli; eyes when fresh a beautiful light greenish blue; mesothorax and scutellum shining on disc, finely punctured; notauli linear; wings clear hyaline, with outer margin broadly dusky; stigma dusky reddish; marginal cell rather broadly rounded at end; basal nervure going slightly but evidently basad of nervulus; first recurrent nervure joining second cubital cell a considerable distance from base, the distance equal to more than half length of first intercubitus; second recurrent slightly nearer to end of cell; legs with pale hair, spurs dark reddish; abdomen shining but well punctured, tergites 1 to 5 with ochreous tinted pale hair-bands, broadly interrupted on first, and slightly on second; a strong spine at each side of sixth tergite, and a strong straight apical spine; second sternite with a very large transverse shining obtuse protuberance; third with a deep V-like emargination, beneath which is a fringe of white hair; fourth more broadly and shallowly emarginate.

Roggen, Morgan Co., Colorado, 4,718 ft., 1933 (Chas. H. Hicks). Bred from the nest, April 28, two males. Related to *A. uvulalis* Ckll., from the Mojave Desert, but smaller with strongly reddened hair on thorax, wings not yellowish, projection of second ventral segment different.

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Contributions, queries and discussion are urgently solicited for our new section.